



**SAHRA PERMIT APPLICATION PROPOSAL FOR RESCUE EXCAVATIONS OF SITE 37
ON PORTION 3 OF FARM OVERVLAKTE 125 MS AND VELE COAL MINE- EAST PIT
EXTENSION IN MUSINA LOCAL MUNICIPALITY, VHEMBE DISTRICT,
LIMPOPO PROVINCE, SOUTH AFRICA.**



Compiled by

Dr. Eric N. Mathoho, Dr. Robert Nyamushosho and Prof. Shadreck Chirikure

Millennium Heritage Group (PTY) LTD

For: MC Mining & Exploration (PTY) LTD

South Block, Summercon Office Park

Conner Rockery Lane and Sunset Avenue

Lonehill

2191

ZAF

16 January 2023

Contents	
Executive Summary	3
1.INTRODUCTION	4
2. HERITAGE RESOURCES OF THE MAPUNGUBWE CULTURAL LANDSCAPE AREA.....	5
3. ENVIRONMENTAL MANAGEMENT COMMITTEE (EMC).....	6
4. RELEVANT LEGISLATION	7
4.1. Historical remains	7
4.2. Archaeological remains	7
4.3. Burial grounds and graves	8
5. SITE DESCRIPTION	9
6. SITE VISIT	13
7. PROPOSED METHODOLOGY	13
7.2.1. Surveys and mapping.....	13
7.2.2. Excavation, and Post Excavation Analysis.....	13
Student training.....	14
7.2.3. Publication	14
7.2. 4. Curation of finds and excavation archives.....	14
8. Conclusion and recommendations	14
9. References.....	15

Table of Figures

Figure 1: Locality map of Vele Colliery (Courtesy of MC Mining Ltd)	4
Figure 4: A Google Earth view of Vele Coal Mine showing the location of Site 37	9
Figure 5: Gravel access road leading to Site 37	10
Figure 6: Colophospermum mopane bushveld complex on site	10
Figure 7: Heaps of soil, and stones that resulted from the construction of the gravel road	11
Figure 8: Cleared area that resulted from the construction of the gravel road.....	11
Figure 9: Some of the surface collections recorded at Site 37	12
Figure 10: Another open area where ceramics were noted on the surface of the site.....	12

Executive Summary

MC Mining is operating Vele Colliery approximately 50 kilometers northwest of Musina Central Business District (CBD), 32 kilometers east of Mapungubwe Hill, and about 10 kilometres from the eastern boundary of the Mapungubwe National Park and World Heritage Site. The company bought a series of farms where it mines coal, mixing this business venture with heritage and nature conservation. Given the sensitivity of the wider Mapungubwe Cultural Landscape, the company established the Environmental Management Committee (EMC) whose principal objective is to monitor compliance with heritage and water use legislation and ancillary regulations. The South African Heritage Resources Agency is a member of the EMC and performs periodic monitoring of the heritage resources and makes recommendations to enhance the protection of heritage resources. During the 2021 monitoring visit by SAHRA, it was recommended that Site 37 be monitored every six months and that it be mitigated through a section 35 permit application given the precarity posed by development expansion. The site was affected by a pre-existing gravel road and continues to be eroded further degrading its information value.

Continuous monitoring by MC Mining indicated that Site 37 requires mitigation to preserve it by record. The site is located within the approved East Pit precinct of Vele Coal Mine. This proposal is for a permit to mitigate Site 37 to generate high level information to enhance our understanding of the Mapungubwe Cultural Landscape. This will ensure that the site is not impacted should the current footprint of the East Pit be extended.

1. INTRODUCTION

Following environmental authorizations and other relevant approvals (Appendix 2), MC Mining seeks a section approval to mitigate Site 37 located in the footprint of the Vele Colliery-East Pit Mine on Portion 3 of the farm Overvlakte 125MS in Vhembe District, Limpopo Province. The mine is approximately 50 kilometers' northwest of Musina Central Business District (CBD), and 32 kilometers east of Mapungubwe Hill and about 10 kilometres from the eastern boundary of the Mapungubwe National Park and World Heritage Site. The Mapungubwe National Park is a Grade 1 site making resources on the wider landscape of high significance (Khumalo 2021). The East Pit is located roughly 15 kilometers north of the main arterial regional tarred road (R572) which connect Musina CBD and the Mapungubwe National Park and World Heritage Site. It is located 2 kilometers south of the Limpopo Riverbank which forms the northern border of South Africa and Zimbabwe to the north (Fig 1).

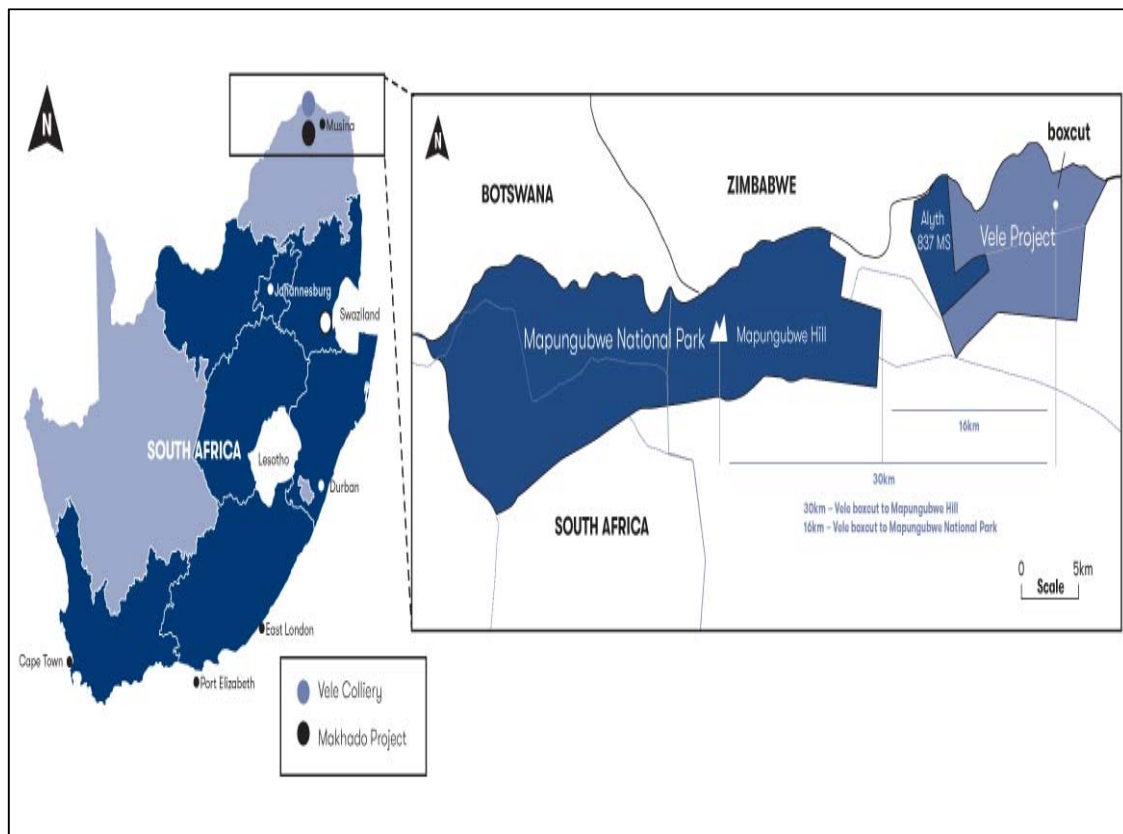


Figure 1: Locality map of Vele Colliery (Courtesy of MC Mining Ltd)

The establishment of the mine was preceded by a series of heritage impact assessments covering palaeontology, archaeology, and other heritage categories (see for example Roodt 2009; Durand 2009; Pikirayi et al. 2012) (Appendix 1& 4). These assessments covered the provisions of the National Heritage Resources Act of 1999, the World Heritage Act of 1999, the National Environment Management Act of 1998, and other relevant legislations. Given the culturally sensitive nature of the

Mapungubwe Cultural Landscape, an Environmental Management Committee (EMC) was established for the purposes of monitoring heritage resources management and the water license issues. Routine monitoring by the South African Heritage Resources Agency (a member of the EMC) noted threats to Site 37 (Fig 2) and recommended monitoring after every six years and a section 35 mitigation (Khumalo 2021). This proposal seeks permission to mitigate the site to protect by record and to publish the results thereby enhancing our knowledge of the Mapungubwe Cultural Landscape outside the National Park and World Heritage site.

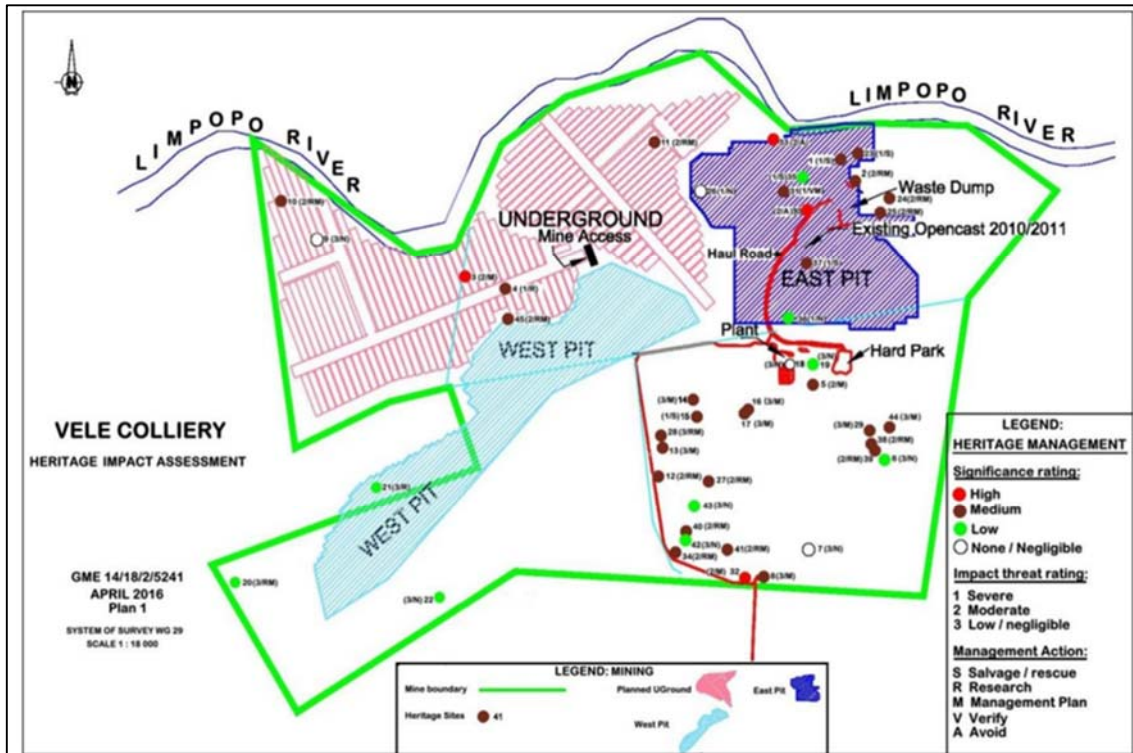


Figure 2: Plan drawing showing Coal mining infrastructure and the location of heritage sites within the Vele Coal Mine area. Site 37 is located within the proposed mining footprint and requires mitigation.

2. HERITAGE RESOURCES OF THE MAPUNGUBWE CULTURAL LANDSCAPE AREA

The Mapungubwe Cultural Landscape hosts significant and diverse heritage resources of different time periods (Deacon and Norton, 2003; Durand, 2009). The region is richly endowed with palaeontological heritage which has illuminated in varying ways biological evolution in the entire world (Durand, 2009). Previous research has shown that the Limpopo province in general, and the area around Mapungubwe National Park and adjacent areas is rich in fossils (Durand 2021). Fossils are significant because they allow us to understand the development of dinosaurs, mammals and humans. The geology of the Vele Coal mining area and the surrounding landscapes is mainly dominated by the Karoo type. Some of the fossil bearing layers are known in the Venetia Nature Reserve further to the west. In adjacent regions

of Botswana and Zimbabwe, fossils are also known (Durand 2021; 2005; Van den Berg, 1980; Brandl, 2002). These fossils fall mainly into two groups: firstly, the plant leaf imprints, stem fossils and coal from the lower part of the Karoo-age sedimentary succession (Middle Permian) and secondly, the dinosaur and thecodont fossils from the upper part (Late Triassic to Early Jurassic) of the Karoo-age sedimentary succession (Durand 2021). Fossil leaf imprints were found in the Tuli Basin sedimentary rocks on the Venetia mine grounds, to the east of the study area in the Tshipise Basin, and to the north of the study area in southern Zimbabwe. Together with the archaeology, the palaeontology conveys the heritage significance of the Mapungubwe Cultural Landscape. While the coal hosting Madzaringwe and Mikambeni Formations, are known to host fossils, a detailed desktop study by Dr. Francois Durand failed to identify any fossils around Vele Colliery.

Archaeologically, the area consists of various layers of human occupation dating back millions of years. The earliest layer belongs to the Early Stone Age (ESA) (2.6 million – 200 000 BP) which is followed by the Middle Stone Age (MSA) (300 000 – 20 000 BP) and the Later Stone Age (LSA) (20 000 -to the recent historical time (last 2000 years) (Sampson 1974; 1984; Sadr 2008; Barham & Mitchell, 2008; Chirikure & Mathoho, 2019). Then, there is the layer corresponding to Early Iron Age farmers in the first millennium AD (Huffman, 2007). This layer is followed by Middle Iron Age peoples who are associated with the state capitals at Schroda, K2 and Mapungubwe. After these various groups came the Khami - Venda and Sotho-Tswana peoples who settled in the region post-AD1300. The last layers relate to colonial history and the early history of the twentieth century. The material signatures for all these cultural periods have been identified in the Mapungubwe cultural landscape and collectively convey its significance. Previous studies within Vele Colliery and the surrounding landscape documented several heritage sites that date from the Stone Age to the recent past (Huffman 2007; Roodt 2009, 2022; Pikirayi et al 2012) (Fig 2). Some of these are in the development and require mitigation so that they are not affected by the development. Routine monitoring suggested that it is better to rescue excavate Site 37 which is threatened by weather elements and lies in the development footprint.

3. ENVIRONMENTAL MANAGEMENT COMMITTEE (EMC)

The Environmental Management rational was signed to develop joined up thinking on heritage management and water usage by MC Mining and various stakeholders. This established a new standard for co-existence between mining, agriculture and heritage land uses at Vele (Khumalo 2021). The EMC was set up as part of the implementation of the biodiversity offset agreement between the Department of Environmental Affairs, the South African National Parks and owners of Vele Colliery. It brings together various stakeholders including regulatory authorities, land owners, communities and advocacy groups. The South African Heritage Resources Agency whose mandate is to identify, protect, manage and conserve is part of the EMC and performs routine monitoring. MCM also monitors the identified

sites routinely ensuring that adverse impacts are mitigated. During these processes, it became clear that Site 37 needs a section 35 mitigation (Khumalo 2021: 7) (Appendix 6 &7). This proposal seeks a permit to rescue the site before it is lost to a combination of weather elements and ongoing developments associated with the East Pit.

4. RELEVANT LEGISLATION

Owing to the proximity of Vele Colliery to the Mapungubwe National Park and World Heritage Site the sites within it are of huge significance. The area is also protected in terms of the World Heritage Convention Act (No 43 of 1999) and the National Environmental Management Act (Act No 107 of 1998) Section (23). However, since the purpose of the envisaged work is to mitigate Site 37, a possible Zhizo Iron Age site, the provisions of the National Heritage Resources Act (Act No 25 of 1999), applies as follows:

4.1. Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage Resources Authority.

4.2. Archaeological remains

Section 35(3) Any person who discovers archaeological and paleontological materials and meteorites during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or paleontological site

is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for obtaining information on whether an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is believed an archaeological or paleontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

4.3. Burial grounds and graves

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who during development or any other activity discover the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

- (I) carry out an investigation for obtaining information on whether such grave is protected in terms of this act or is of significance to any community; and

if such grave is protected or is of significance, assist any person who or community which is a direct descendant to decide for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

5. SITE DESCRIPTION

Site 37 (GPS S22°.09, 31.02 & E 29°.40.25.04), is a possible Zhizo or Late Iron Age site situated on an undulating terrain roughly 600 meters from the Vele Coal Mine East Pit (Fig 4). was of concern. The site is roughly 60 X 40 meters in size and is positioned on an area with good command view of the Limpopo River. Most sections of the site have been eroded thereby exposing archaeological material remains on the surface. These include broken pieces of undiagnostic potsherds, animal bones and one piece of rusted iron (Fig 9). The construction of a gravel access road seems to have dissected the site into two sections. There is a possibility that more cultural material is covered by the soil from the road construction activities. Roodt (2022) makes it clear that during a site visit by officials from SAHRA, there was concern about the integrity of Site 37 given the encroachment of mining activities and the use of the access road which impacts negatively the cultural materials on the site (see appendix 6&7).



Figure 2: A Google Earth view of Vele Coal Mine showing the location of Site 37



Figure 3: Gravel access road leading to Site 37



Figure 4: Colophospermum mopane bushveld complex on site



Figure 5: Heaps of soil, and stones that resulted from the construction of the gravel road



Figure 6: Cleared area that resulted from the construction of the gravel road



Figure 7: Some of the surface collections recorded at Site 37



Figure 8: Another open area where ceramics were noted on the surface of the site.

6. SITE VISIT

In preparation to develop the proposal, we performed a detailed desktop study of CRM and monitoring reports and academic papers, in preparation of a site visit. A site visit was made by Dr Eric. N. Mathoho on the 10th of January 2023 who together with his team surveyed Site 37 thoroughly to identify any features and to understand its spatial layout, and extent. Concentrations of materials were recorded. The main outcome was that if Site 37 is not mitigated, it will be destroyed resulting a significant loss of information. However, for the programme of rescue excavations to be initiated, permission must first be sought from SAHRA as stipulated by NHRA.

7. PROPOSED METHODOLOGY

The National Heritage Resources Act of 1999 and the SAHRA Minimum Standards make it explicit that mitigation is an essential component for conserving the national estate. To mitigate the site, we propose a multi-dimensional process that combines surveys with mapping and controlled surface collections and excavations.

7.2.1. Surveys and mapping

A baseline will be established across the site to establish a datum. This will make it easy to map the full extent of the site and to establish a site grid essential for controlled surface collections and test pitting. Intra and inter site surveys will be performed systematically by professional archaeologists following the grids to map the site fully to expose its layout, demarcate activity areas, and to identify potential excavation areas as well as model its location in relation to land use. Ultimately a site map will be produced.

7.2.2. Excavation, and Post Excavation Analysis

Stratigraphic excavations will also be conducted on selected areas using standard protocols recommended for fieldwork (Drewett 2011). The excavations will be done considering the cultural sensitivity of the targeted areas. Test Pits measuring 1 X 1 metre will be adopted to salvage and sample the cultural material following the natural stratigraphic layering of the deposit. In the absence of visible stratigraphy, a 10cm spits approach will be adopted as layers during excavations process. The excavation sections will be drawn and plotted onto the site grid. All the finds recovered will be collected and curated at the University of Venda Anthropology Museum. Datable samples will be collected for Accelerator Mass Spectrometry (AMS) dating at iThemba Laboratories.

Student training

We will use the exercise to train selected students from the University of Venda and the University of Cape Town in surveys, mapping, excavation and post-excavation analysis. We anticipate that some students may use the materials for their projects.

7.2.3. Publication

The results of the excavations will be published in academic high impact journals to disseminate the results to the public. This is important because talks of the significance of the sites on Vele Colliery, no scientific studies have been published. The goal of this mitigation is to publish the results in leading journals and other accessible places.

7.2. 4. Curation of finds and excavation archives.

All retrieved cultural material remains and supporting records and photographs will be curated at the University of Venda (see Appendix 3). An application will be made to SAHRA to use some of the objects from the excavations to develop an exhibition at the University of Venda Art gallery Centre. The exhibition will meet standards of curation in the field of museology. It is anticipated that the university community will learn from their past as well as visitors to the art gallery.

8. Conclusion and recommendations

Site 37 is at high risk of continued erosion and activities associated with the Vele Colliery-East Pit mine. Previously, the site was disturbed by the construction of a gravel access road which dissected the site into two sections. As required by the NHR Act of 1999, such disturbed heritage sites should be mitigated through rescue excavations. Therefore, we strongly recommend the South African Heritage Resources Agency (SAHRA) to issue the relevant permit to facilitate the mitigation of important cultural resources before the site is destroyed without record.

9. References

- Barham, L. & Mitchell, P. 2008. *The first Africans: African archaeology from the earliest toolmakers to most recent foragers*. Cambridge: Cambridge university press
- Chirikure, S. & E. N. Mathoho 2019. Proposal for electrical poles maintenance associated with Greefswald wellfields (Boreholes) along the Limpopo River in the Mapungubwe national parks and World Heritage site by De Beers, Venetia Mine, Limpopo Province, South Africa (unpublished report)
- Deacon, J. and Norton, P., 2003. Mapungubwe Cultural Landscape.
- Deacon, J. 2002 *Southern African Rock Art Sites*. Southern African Rock Art Project (SARAP)-a paper submitted to UNESCO-World Heritage Centre.
- Deacon, H.J. and Deacon, J. 1999. *Human beginnings in South Africa: Uncovering the secrets of the Stone Age*. Cape Town: David Philip
- Drewett, P., 2011. *Field archaeology: an introduction*. Routledge.
- Durand, J.F. 2009. Vele Colliery Project. Desktop Study Paleontology
- Durand, J.F. 2021. Proposed Solar Plant Project at Venetia Mine Limpopo Province
- Huffman, T.N. 2007 *Handbook to the Iron Age: The archaeology of pre-colonial farming societies in southern Africa*. Scottville: University of Kwazulu Natal Press
- Huffman, T.N. 2011. Origins of Mapungubwe Project: progress Report. Unpublished Report prepared for De Beers, the NRF, SAHRA and SANParks.
- Kuman, K. 2007. The Earlier Stone Age in South Africa: site context and the influence of cave studies. In Pickering, T.D., Schick, K. and Toth, N. (eds): *Breathing Life into Fossils: Taphonomic Studies in Honor of C.K. (Bob) Brain*: 181-198. Bloomington (Indiana): Stone Age Institute Press.
- Pikirayi, I, S, Chirikure, M. Manyanga, S Mothulatshipi & O. Ntsoane, 2012. Heritage Impact Assessment Report and Management Plan relating to the establishment of the Vele Colliery near Mapungubwe World Heritage Site Musina, Limpopo Province, South Africa.
- Roodt, F.2009. *Heritage Impact Assessment Report for the proposed Vele Colliery Weipe, Vhembe District Municipality, Limpopo*.
- Roodt, F, 2022. Heritage Monitoring Report. 4th quarterly Report, November/December 2022
- Sadr, K., 2008. Invisible herders? The archaeology of Khoekhoe pastoralists. *Southern African Humanities*, 20(1), pp.179-203.
- SAHRA, 2021. Report for the Vele Colliery site visit. (Unpublished report-13 October 2021)
- Sampson, C.G., 1974. *The stone age archaeology of Southern Africa*. New York: Academic Press.
- Sampson, C.G. 1984. Site cluster in the Smithfield Settlement pattern. *South African Archaeological Bulletin* 39: 5-23
- Schoonraad. M. 1960. Preliminary survey of the Rock Art of the Limpopo Valley. *South African Archaeological Bulletin* 15:10-13

